

**QP Code : 15315**

**(3 Hours)**

**[ Total Marks :100**

- N.B. :** (1) Questions No.1 is **compulsory**.  
(2) **Solve** any **four** questions from the remaining **six** questions  
(3) **Assume** suitable data wherever required.

1. (a) Explain the difference between lossy and lossless compression. 20  
(b) Write short note on Chroma Subsampling.  
(c) Explain the role of Nyquist Theorem in basics of digital audio.  
(d) Write Short Note on TV trees.
2. (a) Describe the JPEG methodology/ algorithm. Clearly state and explain the mathematical treatment and building blocks used in detail. 10  
(b) Explain different Color Model in images in detail. 10
3. (a) Explain how RTP with RTCP, RSVP and RTSP play important role in Multimedia communication. 10  
(b) Explain different multimedia elements which can be used in college website. 10
4. (a) Explain MPEG -1 motion compensation concept along with the video bit stream. 10  
(b) For the input string ABCABCBBACABAB use LZW compression algorithm to create codes. 10

String	Code
A	1
B	2
C	3
5. (a) Explain different broadcasting schemes in Video On Demand. 10  
(b) Explain Internet Telephony advantage over POTS. Explain the role of SIP protocol in Internet telephony. 10
6. (a) Explain essential design steps (design methodology) for multimedia system. Design with example. 10  
(b) Explain with suitable diagram the encoder and decoder of H.261 along with the bit stream syntax. 10
7. Write Short note on (Any two) :— 20
  - (a) Multimedia Networking and Multiplexing Technologies
  - (b) Explain Huffman coding algorithm with suitable example
  - (c) Speech coding technique in G.726
  - (d) MIDI